

ABSTRACT OF THE DISCLOSURE

An apparatus and method for radio signal parallel processing are provided, wherein the apparatus, which receives and processes in parallel a first and second carrier signal of frequencies ω_1 and ω_2 ($\omega_2 > \omega_1$), includes: a first local oscillator which outputs a signal of frequency ω to a first frequency mixer which converts the first carrier signal into a signal of a first intermediate frequency ($\omega - \omega_1$) and a signal of another first intermediate frequency ($\omega + \omega_1$), and outputs the converted signals; and a second frequency mixer which converts the second carrier signal into a signal of a first intermediate frequency ($\omega_2 - \omega$) and a signal of another first intermediate frequency ($\omega_2 + \omega$), and outputs the converted signals. With the above, the capacity of data reception and transmission increases, the complexity of implementing the apparatus is low, and the cost of manufacturing the apparatus is reduced.